

Conclusion: Human ribs in the adult are angulated close to the resultant chest wall force vectors. This means that human ribs are stable and do not move on coughing. This has important survival implications, due to the survival advantage resulting from ribs functioning effectively as struts.

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Patient survival following renal transplantation in Malta

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Introduction: The Malta National Transplant Register (MNTR) was set up in 1999 and collects information regarding organs harvested in Malta, whether transplanted locally or abroad. The aim of the study was to determine survival of renal transplant patients in Malta and to compare this to Europe.

Methods: All renal transplants registered in the MNTR up to 2010 were followed up to end of 2014 (N=127) through linkage with the mortality register. Crude survival with corresponding confidence intervals were calculated using Kaplan-Meier method.

Results: 1,2 and 5 year survival in recipients of a cadaveric kidney improved from 82.4% (95% CI 68.8 – 90.4), 82.4% (95% CI 68.8 – 90.4), 66.7% (95% CI 51.9 – 77.8) for transplants conducted in 1999-2004, to 87.0% (95% CI 73.2 – 93.9), 87.0% (95% CI 73.2 – 93.9), 77.8% (95% CI 62.7 – 87.4) for transplants conducted in 2005-2010. 1, 2 and 5 year survival of local recipients of a live kidney for the period 1999-2010 was 96.2% (95% CI 75.7-99.5), 92.3% (95% CI 72.6 – 98) and 88.5% (95% CI 68.4 – 96.1) respectively. In general, crude average survival reported by European Registries for transplants from 2004 – 2008 falls within survival ranges found for cadaveric and live kidney transplants in Malta.

Conclusion: Since 1999, there has been an improvement in the survival of patients receiving a renal transplant in Malta. Considering the small numbers and wide confidence intervals, crude survival of patients in Malta compares relatively well with the available data from other transplant registries in Europe.

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Does it still make sense to define adequate competency as a fixed value: the case for standard setting

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Introduction: Until 2014/15 most examinations in the biomedical sciences consisted of negatively marked True/False questions and short response questions. The aim of this study was to assess the effect of the change in the assessment method to best of four questions in 2014/15.

Methods: The anonymized published exam results of each study unit were obtained from SIMS from 2010/11 to 2014/15. The mean mark and standard deviation for each study unit was calculated for each year.

Results: In 2014/15, there was a significant increase in mean marks in all study units examined by means of best of four multiple choice questions. For example, in the musculoskeletal system (Year 1) the mean mark between 2010 and 2013 was 65% (SD 11.4), increasing to 74% (SD 11.8) in 2014-15. Similarly in the gastrointestinal system (Year 2) the mean mark between 2010 and 2013 was 63% (SD 10.7), increasing to 77% (SD 8.6) in 2014-15. Failure rate for the gastrointestinal system fell from 1.8% in 2010-13 to 0.6% in 2014. In the head and neck module (one of the few units retaining the mixed exam approach), the mean mark for the best of four section was significantly higher at 70.7% (SD 16.5) compared with 58.8% (SD 15.7) for the short answer questions.

Conclusion: Students performed exceptionally well in the 2014/15 examination sessions, suggesting that determining the appropriate Pass/Fail score using standard setting is now overdue.

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Investigating the differentiation of HL-60 cell-lines induced by terpinoid and isoquinoline derivatives

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Introduction: Acute myeloid leukaemia (AML) of the M2 subtype is the commonest type of acute leukaemia in adults, resulting from an arrest of the differentiation of leukocytes at the myeloblastic stage, causing unregulated proliferation. Unlike promyelocytic leukaemia, AML cannot be treated with all-trans retinoic acid (ATRA) due to the lack of the 15:17 translocation. The aim of this experiment was to find an appropriate chemical to be used as treatment in order to stop this unregulated proliferation by inducing eventual apoptosis through differentiation.

Methods: On day 0, the cells were exposed to different chemicals at 1µM and 10µM and allowed to incubate under controlled conditions. On days 3 and 5, the MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) and NBTZ (nitroblue tetrazolium) protocols were followed and the plates were analyzed colorimetrically to obtain results.

Results: Out of the 24 chemicals tested, derivatives of terpinoid and isoquinoline showed promising results as indicated by the NBTZ:MTT ratio.

Conclusion: Although these results offer hope for future patients suffering from AML, further investigations need to be carried out to better assess the adequacy of these chemicals for future treatments.

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Prioritisation of Infectious Diseases in Public Health

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Introduction: In 2012 the Infectious Disease Prevention and Control Unit (IDCU) conducted an exercise to systematically prioritise pathogens by public health criteria in order to guide surveillance activities and effectively allocate resources for the prevention and control of infectious diseases in Malta.

Methods: A predetermined standardised weighting and scoring system was utilised to rank 77 selected infectious disease pathogens based on 11 public health criteria: Burden of disease (incidence, severity and mortality); Epidemiological dynamic (outbreak potential, trend and emerging potential); Information need (evidence for risk factors/groups); International duties and public attention; Health-gain opportunity (preventability and treatability). For each criterion a numerical score of -1, 0 or +1 (highlighting increasing importance) was given and each criterion received a weight by which the numerical score of each criterion was multiplied. Seventy-eight local experts in infectious diseases were invited to participate in face to face meetings during which feedback on weighting and scoring by pathogen was collected by means of paper-based questionnaires.

Results: Sixty (76.9%) of the experts completed the questionnaires. The total weighted scores ranged from +56.10 (Severe acute respiratory infections/SARIs) to -96.58 (Erysipelas) with the median being -35.67 (Hepatitis